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Notice of Allowability

Application No.

10/784,357

Applicant(s)

BROWNING ET AL.

Examiner

Juanita D. Stephens

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 4/14/2005.
2. ☒ The allowed claim(s) is/are 64-91.
3. ☒ The drawings filed on 23 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Allowable Subject Matter

1. Claims 64-91 are allowed.
2. The following is an examiner's statement of reasons for allowance:

The prior art does not teach, suggest, or render obvious the combination of a contact array disposed on at least a portion of said vertical wall including a first columnar array, a second columnar array of contact areas adjacent to the first columnar array, a third columnar array of contact areas adjacent to the second columnar array, a fourth columnar array of contact areas adjacent to the third columnar array, a fifth columnar array of contact areas adjacent to the fourth columnar array, and a sixth columnar array of contact areas adjacent to the fifth columnar array, wherein four contact areas in the first columnar array are each coupled to a different one of the plurality of groups of drop generators, wherein four contact areas in the second columnar array are each coupled to a different one of the plurality of groups of drop generators, wherein three contact areas in the second columnar array are each coupled to a different address line of the plurality of address lines, wherein one contact area in the third columnar array is coupled to one group of the plurality of drop generators, wherein two contact areas in the third columnar array are each coupled to an different address line of the plurality of address lines, wherein three contact areas of the fourth columnar array are each coupled to a different one of the plurality of groups of drop generators, wherein three contact areas in the fourth columnar array are each coupled to a different address line of the plurality of address lines, wherein four contact areas in

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the fifth columnar array are each coupled to a different one of the plurality of groups of drop generators, wherein two contact areas in the fifth columnar array are each coupled to a different address line of the plurality of address lines, wherein three contact areas in the sixth columnar array are each coupled to a different address line of the plurality of address lines, recited in claim 64. This invention solves the problem of providing reliable electrical interface between a print cartridge and the printer in which it is installed.

The prior art does not teach, suggest, or render obvious the combination of a contact array disposed on at least a portion of said vertical wall including a first columnar array, a second columnar array of contact areas adjacent to the first columnar array, a third columnar array of contact areas adjacent to the second columnar array, a fourth columnar array of contact areas adjacent to the third columnar array, a fifth columnar array of contact areas adjacent to the fourth columnar array, and a sixth columnar array of contact areas adjacent to the fifth columnar array, wherein two contact areas in the first columnar array are each coupled to a different one of the plurality of groups of drop generators, wherein two contact areas in the first columnar array are not coupled to any of the plurality of groups of drop generators, wherein four contact areas in the second columnar array are each coupled to a different one of the plurality of groups of drop generators, wherein three contact areas in the second columnar array are each coupled to a different address line of the plurality of address lines, wherein one contact area in the third columnar array is not coupled to any of the plurality of groups of drop generators, wherein two contact areas in the third columnar

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array are each coupled to a different address line of the plurality of address lines, wherein two contact areas of the fourth columnar array are each coupled to a different one of the plurality of groups of drop generators, wherein one contact area in the fourth columnar array is not coupled to any of the plurality of groups of drop generators, wherein three contact areas in the fourth columnar array are each coupled to a different address line of the plurality of address lines, wherein four contact areas in the fifth columnar array are each coupled to a different one of the plurality of groups of drop generators, wherein two contact areas in the fifth columnar array are each coupled to a different address line of the plurality of address lines, wherein three contact areas in the sixth columnar array are each coupled to a different address line of the plurality of address lines, recited in claim 78. This invention solves the problem of providing reliable electrical interface between a print cartridge and the printer in which it is installed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art of Nobel et al. (US 5,953,028) discloses a print cartridge (Fig. 3) having a cartridge body having a lower portion and a vertical wall, a printhead attached

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to said lower portion, the printhead including a plurality of groups of drop generators and a plurality of address lines, and a plurality of contact array disposed on at least a portion of said vertical wall including a first columnar array and a second columnar array of contact areas adjacent to the first columnar array, **but does not disclose** a third columnar array of contact areas adjacent to the second columnar array, a fourth columnar array of contact areas adjacent to the third columnar array, fifth columnar array of contact areas adjacent to the fourth columnar array, and a sixth columnar array of contact areas adjacent to the fifth columnar array.

The prior art of Wilson et al. (US 6,003,974) discloses a print cartridge (Figs. 1B and 7) having a cartridge body having a lower portion and a vertical wall, a printhead attached to said lower portion, the printhead including a plurality of groups of drop generators and a plurality of address lines, and a plurality of contact array disposed on at least a portion of said vertical wall including a first columnar array and a second columnar array of contact areas adjacent to the first columnar array, **but does not disclose** a third columnar array of contact areas adjacent to the second columnar array, a fourth columnar array of contact areas adjacent to the third columnar array, fifth columnar array of contact areas adjacent to the fourth columnar array, and a sixth columnar array of contact areas adjacent to the fifth columnar array.

The prior art of Murthy et al. (US 6,024,440) discloses a print cartridge (Figs. 1 and 2) having a cartridge body having a lower portion and a vertical wall, a printhead attached to said lower portion, the printhead including a plurality of groups of drop generators and a plurality of address lines, and a plurality of contact array disposed on

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at least a portion of said vertical wall including a first columnar array and a second columnar array of contact areas adjacent to the first columnar array, **but does not disclose** a third columnar array of contact areas adjacent to the second columnar array, a fourth columnar array of contact areas adjacent to the third columnar array, fifth columnar array of contact areas adjacent to the fourth columnar array, and a sixth columnar array of contact areas adjacent to the fifth columnar array.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juanita D. Stephens whose telephone number is (571) 272-2153. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Juanita D. Stephens", is written over a horizontal line.

Juanita D. Stephens
Primary Examiner
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April 17, 2005